SEQUENCE LISTING

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        Earl, Patricia
        Robinson, Harriet

<120> MVA EXPRESSING MODIFIED HIV ENVELOPE,
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<150> PCT/US02/06713
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aattcaacac aactgtttaa tagtacttgg aattttaatg gtacttggaa tttaacacaa 1200
tcgaatggta ctgaaggaaa tgacactatc acactcccat gtagaataaa acaaattata 1260
aatatgtggc aggaagtagg aaaagcaatg tatgcccctc ccatcagagg acaaattaga 1320
tgctcatcaa atattacagg gctaatatta acaagagatg gtggaactaa cagtagtggg 1380
tccgagatct tcagacctgg gggaggagat atgagggaca attggagaag tgaattatat 1440
aaatataaag tagtaaaaat tgaaccatta ggagtagcac ccaccaaggc aaaaagaaga 1500
gtggtgcaga gagaaaaaag agcagtggga cgataggag ctatgttcct tgggttcttg 1560
ggagcagcag gaagcactat gggcgcagcg tcaataacgc tgacggtaca ggccagacta 1620
ttattgtctg gtatagtgca acagcagaac aatttgctga gggctattga ggcgcaacag 1680
catctgttgc aactcacagt ctggggcatc aagcagctcc aggcaagagt cctggctgtg 1740
gaaagatacc taagggatca acagctccta gggatttggg gttgctctgg aaaactcatc 1800
tgcaccactg ctgtgccttg gaatgctagt tggagtaata aaactctgga tatgatttgg 1860
```

```
gataacatga cctggatgga gtgggaaaga gaaatcgaaa attacacagg cttaatatac 1920
accttaattg aggaatcgca gaaccaacaa gaaaagaatg aacaagactt attagcatta 1980
gataagtggg caagtttgtg gaattggttt gacatatcaa attggctgtg gtatgtaaaa 2040
atcttcataa tgatagtagg aggcttgata ggtttaagaa tagttttttac tgtactttct 2100
atagtaaata gagttaggca gggatactca ccattgtcat ttcagaccca cctcccagcc 2160
ccgaggggac ccgacaggcc cgaaggaatc gaagaagaag gtggagacag agac      2214
```

```
<210> 4
<211> 70
<212> DNA
<213> Artificial Sequence

<220>
<223> PmH5 promoter

<400> 4
aaaaattgaa aataaataca aaggttcttg agggttgtgt taaattgaaa gcgagaaata 60
atcataaata                                                        70
```

```
<210> 5
<211> 3479
<212> DNA
<213> Artificial Sequence

<220>
<223> HIV genes

<400> 5
atgggtgcga gagcgtcagt attaagcggg ggagaattag atcgatggga aaaaattcgg 60
ttaaggccag ggggaaagaa aaaatataaa ttaaaacata tagtatgggc aagcagggag 120
ctagaacgat tcgcagttaa tcctggcctg ttagaaacat cagaaggctg tagacaaata 180
ctgggacagc tacaaccatc ccttcagaca ggatcagaag aacttagatc attatataat 240
acagtagcaa ccctctattg tgtgcatcaa aggatagaga taaaagacac caaggaagct 300
ttagacaaga tagaggaaga gcaaaacaaa agtaagaaaa agcacagca agcagcagct 360
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caaatggtac atcaggccat atcacctaga actttaaatg catgggtaaa agtagtagaa 480
gagaaggctt tcagcccaga agtgataccc atgtttttcag cattatcaga aggagccacc 540
ccacaagatt taaacaccat gctaaacaca gtggggggac atcaagcagc catgcaaatg 600
ttaaaagaga ccatcaatga ggaagctgca gaatgggata gagtgcatcc agtgcatgca 660
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ttggttgcac tttaaatttt cccattagcc ctattgagac tgtaccagta aaattaaagc 1800
```

```
caggaatgga tggcccaaaa gttaaacaat ggccattgac agaagaaaaa ataaaagcat 1860
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tagtagattt cagagaactt aataagagaa ctcaagactt ctgggaagtt caattaggaa 2040
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catatttttc agttcccttа gatgaagact tcaggaagta tactgcattt accataccta 2160
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ctggaatcag gaaaatacta tttttagatg gaatagataa ggcccaagat gaacattag 3479
```

<210> 6
<211> 9
<212> PRT
<213> Simian Immunodeficiency virus

<400> 6
Cys Thr Pro Tyr Asp Ile Asn Gln Met
 1   5

<210> 7
<211> 8
<212> PRT
<213> Chicken

<400> 7
Ser Ile Ile Asn Phe Glu Lys Leu
 1   5

<210> 8
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> probe

<400> 8

```
ctgtctgcgt catttggtgc                                                      20
```

<210> 9
<211> 4
<212> PRT
<213> Human immunodeficiency Virus

<220>
<221> VARIANT
<222> (1)...(4)
<223> Xaa = Any Amino Acid

<400> 9
Tyr Xaa Xaa Leu
 1

<210> 10
<211> 93
<212> DNA
<213> Artificial Sequence

<220>
<223> m7.5 promoter

<400> 10
```
cgcttttttat agtaagtttt tcacccataa ataataaata caataattaa tttctcgtaa 60
aaattgaaaa actattctaa tttattgcac ggt                                93
```

<210> 11
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Psyn III promoter

<400> 11
```
taaaaattga aaaaatattc taatttatag gacggttttg attttctttt tttctatact 60
ataaataata aata                                                    74
```

<210> 12
<211> 74
<212> DNA
<213> Artificial Sequence

<220>
<223> Psyn IV promoter

<400> 12
```
taaaaattga aaaactattc taatttatag gacggttttg attttctttt tttctatact 60
ataaataata aata                                                    74
```

<210> 13
<211> 75
<212> DNA
<213> Artificial Sequence

<220>
<223> Psyn V promoter

<400> 13
aaaaaatgat aaagtaggtt cagttttatt gctggtttaa aatcacgctt tcgagtaaaa 60
actacgaata taaat   75